طرح نگهداشت و افزایش تولید 27 مخزن

# DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES

## نگهداشت و افزایش تولید میدان نفتی بینک

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| D02 | AUG.2024 | AFC | P.Hajisadeghi | M.Fakharian | M.Sadeghian | |
| D01 | OCT.2022 | IFA | P.Hajisadeghi | M.Fakharian | M.Mehrshad | |
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| **Rev.** | **Date** | **Purpose of Issue / Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **CLIENT Approval** |

**Class: 1** **CLIENT Doc. Number: F9Z-708931**

**status:**

**IDC:** Inter-Discipline Check

**IFC:** Issued For Comment

**IFA:** Issued For Approval

**AFD:** Approved For Design

**AFC:** Approved For Construction

**AFP:** Approved For Purchase

**AFQ:** Approved For Quotation

**IFI:** Issued For Information

**AB-R:** As-Built for CLIENT Review

**AB-A:** As-Built –Approved

**REVISION RECORD SHEET**

| Page | D00 | D01 | D02 | D03 | D04 | Page | D00 | D01 | D02 | D03 | D04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | X | X | X | | | 65 | | | | | |
| 2 | X | X | X | | | 66 | | | | | |
| 3 | X | X | X | | | 67 | | | | | |
| 4 | X | X | X | | | 68 | | | | | |
| 5 | X | X | X | | | 69 | | | | | |
| 6 | X | X | X | | | 70 | | | | | |
| 7 | X | X | X | | | 71 | | | | | |
| 8 | X | X | X | | | 72 | | | | | |
| 9 | X | X | X | | | 73 | | | | | |
| 10 | X | X | X | | | 74 | | | | | |
| 11 | X | X | X | | | 75 | | | | | |
| 12 | X | X | X | | | 76 | | | | | |
| 13 | X | X | X | | | 77 | | | | | |
| 14 | X | X | X | | | 78 | | | | | |
| 15 | X | X | X | | | 79 | | | | | |
| 16 | X | X | X | | | 80 | | | | | |
| 17 | X | X | X | | | 81 | | | | | |
| 18 | X | X | X | | | 82 | | | | | |
| 19 | X | X | X | | | 83 | | | | | |
| 20 | X | X | X | | | 84 | | | | | |
| 21 | X | X | X | | | 85 | | | | | |
| 22 | X | X | X | | | 86 | | | | | |
| 23 | X | X | X | | | 87 | | | | | |
| 24 | X | X | X | | | 88 | | | | | |
| 25 | X | X | X | | | 89 | | | | | |
| 26 | X | X | X | | | 90 | | | | | |
| 27 | X | X | X | | | 91 | | | | | |
| 28 | X | X | X | | | 92 | | | | | |
| 29 | X | X | X | | | 93 | | | | | |
| 30 | X | X | X | | | 94 | | | | | |
| 31 | X | X | X | | | 95 | | | | | |
| 32 | X | X | X | | | 96 | | | | | |
| 33 | X | X | X | | | 97 | | | | | |
| 34 | X | X | X | | | 98 | | | | | |
| 35 | X | X | X | | | 99 | | | | | |
| 36 | X | X | X | | | 100 | | | | | |
| 37 | X | X | X | | | 101 | | | | | |
| 38 | | | X | | | 102 | | | | | |
| 39 | | | X | | | 103 | | | | | |
| 40 | | | X | | | 104 | | | | | |
| 41 | | | X | | | 105 | | | | | |
| 42 | | | X | | | 106 | | | | | |
| 43 | | | X | | | 107 | | | | | |
| 44 | | | X | | | 108 | | | | | |
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| 64 | | | | | | 128 | | | | | |

**REFERENCE DOCUMENTS :**

| | |
|---|---|
| Specification For Instrumentation | BK-GNRAL-PEDCO-000-IN-SP-0001 |
| Process Basis Of Design | BK-GNRAL-PEDCO-000-PR-DB-0001 |
| Piping Material Specification | BK-GCS-PEDCO-120-PI-SP-0001 |
| Instrument & Control System Design Criteria | BK-GCS-PEDCO-120-IN-DC-0002 |
| Specification For Hazardous Area Classification | BK-GNRAL-PEDCO-000-SA-SP-0002 |
| Specification For On-off /Shut Down Valves(ESDV/MOV) | BK-GNRAL-PEDCO-000-IN-SP-0006 |
| Specification For Painting | BK-GNRAL-PEDCO-000-PI-SP-0006 |

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|---|---|
| Symbol & Legend For PFD and P&ID | BK-GCS-PEDCO-120-PR-PI-0001 |
| P&ID - Gas Compression Inlet Gas Pipeline (Binak) | BK-GCS-PEDCO-120-PR-PI-0002 |
| P&ID - Gas Compression Inlet Gas Pipeline (Golkhari) | BK-GCS-PEDCO-120-PR-PI-0003 |
| P&ID - Slug Catcher System | BK-GCS-PEDCO-120-PR-PI-0004 |
| P&ID - Gas Compression Inlet Knock Out Drum | BK-GCS-PEDCO-120-PR-PI-0005 |
| P&ID - 1st Stage Gas Compression Suction Drums | BK-GCS-PEDCO-120-PR-PI-0006 |
| P&ID - 1st Stage Gas Compression Compressors | BK-GCS-PEDCO-120-PR-PI-0007 |
| P&ID - 1st Stage Gas Compression Air Coolers | BK-GCS-PEDCO-120-PR-PI-0008 |
| P&ID - 2nd Stage Gas Compression Suction Drums | BK-GCS-PEDCO-120-PR-PI-0009 |
| P&ID - 2nd Stage Gas Compression Compressors | BK-GCS-PEDCO-120-PR-PI-0010 |
| P&ID - 2nd Stage Gas Compression Air Coolers | BK-GCS-PEDCO-120-PR-PI-0011 |
| P&ID - 2nd Stage Gas Compression Discharge Drum | BK-GCS-PEDCO-120-PR-PI-0012 |
| P&ID - Gas Compression Dehydration Package | BK-GCS-PEDCO-120-PR-PI-0013 |
| P&ID - Lean Glycol Storage Tank | BK-GCS-PEDCO-120-PR-PI-0014 |
| P&ID - Instrument & Plant Air System | BK-GCS-PEDCO-120-PR-PI-0015 |
| P&ID - Nitrogen Generation System | BK-GCS-PEDCO-120-PR-PI-0016 |
| P&ID - Close Drain System | BK-GCS-PEDCO-120-PR-PI-0017 |
| P&ID - Corrosion Inhibitor Package | BK-GCS-PEDCO-120-PR-PI-0018 |
| P&ID - Methanol Injection Package | BK-GCS-PEDCO-120-PR-PI-0019 |
| P&ID - LP Flare System | BK-GCS-PEDCO-120-PR-PI-0020 |
| P&ID - Oily Water Sewer | BK-GCS-PEDCO-120-PR-PI-0021 |
| P&ID - Fuel Gas System | BK-GCS-PEDCO-120-PR-PI-0022 |
| P&ID - Diesel Oil System | BK-GCS-PEDCO-120-PR-PI-0023 |
| P&ID - Potable Water System | BK-GCS-PEDCO-120-PR-PI-0024 |
| P&ID - Glycol Sump Drum | BK-GCS-PEDCO-120-PR-PI-0025 |
| P&ID - Fire Water Network | BK-GCS-PEDCO-120-SA-PI-0001 |
| P&ID - Total Flooding System For Extension of Existing Elect. Building | BK-GCS-PEDCO-120-SA-PI-0002 |

**GENERAL NOTES:**

1. Calculations shall be provided for each completely piped actuated valve assembly (including solenoid valve), the stroking times i.e. to close and to open.

2. The duty, failure action and stroke time shall all be approved by the Purchaser.

3. The actuator shall be designed to operate the valve through its full stroke.

4. The maximum valve stroking time to achieve the safety position shall be defined according to size of the body (5 seconds for body until 4", 1 second per inch for body greater than 4"). The maximum fully stroke time shall be 10 seconds.

5. The piping indicates corrosion allowance selected as per document "Piping & Pipeline Material Specification, No. " BK-GCS-PEDCO-120-PI-SP-0001 "

6. Hydro-test duration shall be in accordance with API 6D.

7. All ball valves shall be fitted with suitable 'end of travel' stops at the fully open and fully closed positions and a local position indicator . The design shall prevent the ingress of foreign material and corrosion products which would impair the operation of the stops. Devices capable of locking the valves in their safe position ( ESDV in open or closed position ) shall be provided for maintenance and shall be vendor's standard proven design.

8. Vendor shall guarantee and demonstrate the required stroking speed, during the Functional Test (FAT).

9. All accessories shall be mounted, together with solenoid valve, etc, on a 316SS sub-plate. Tubing shall be suitably sized TP 316L stainless steel with stainless steel double ferrule compression fittings

10. Solenoid valve shall be selected in accordance with low power type.

11. All on/off valves shall be preferably fitted with single acting, spring return pnumatic actuators, completed with mounting kit. Also Partial Stroking test or pilot valve to be considered.

12. The actuator shall be fail safe in operation (as specified in data sheets) in loss of electrical signal or loss of air supply.

13. The spring return actoator shall be "pre stressed".

14. Pneumatic actuators will be sized on the basis of a minimum safety factor of 1.5 and a minimum air pressure of 3 Bar g.
The valve actuator torque shall be in excess of the required valve torque under all operating conditions.

15.All actuators and accessories shall be clearly and permanently identified by nameplate. the nameplate shall be in stainless steel and affixed to the VALVE, actuator and accessories.

16 - Environmental condition for field instrumentation of Binak Oilfield shall be considered as per the followings:

Maximum ambient temperature: 50 (°C)
Minimum ambient temperature: 5 (°C)
Maximum steel surface exposed to sun: 85 (°C)
Maximum summer dry bulb: 50 (°C)
DB/RH for Summer HVAC Design: 41 °C / 61 %
DB FOR Winter HVAC Design: 6 °C

**Relative Humidity:**

- Maximum Design relative humidity (%): 100
- Minimum Design relative humidity (%): 0

17 - Material Test Certificate and calibration Certificate for all transmitters to be submitted by Vendor.

18 - Flow direction shall be permanently and clearly indicated on the valve body.

19- External grounding shall be provided for each solenoid valve.

20- BDV's shall have a minimum body size of 2" with tight shutoff (ANSI B16.104, class VI), air volume tanks for larger valves and should be sized for three full open/ closed operations at 3-barg instrument air pressure.

21- Valves in safety related services should have been fire tested and certification to be provided by Vendor.

22- Seat rings shall be spring loaded and so designed that line pressure will assist in sealing round the ball.

23- Valve stem extension shall be detachable for easy replacements.

24- At least two stem seals shall be provided with facility for injection of secondary sealant and with stainless steel fittings.

25- Stem seal shall be replaceable while the valve is in closed operation position.

26- Short stroke single acting pneumatic piston actuators shall preferably be used on emergency shutdown service.

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27- Body of all On/Off Valves except ss316 body material, shall be painted with white color. Also actuator of ESDV and BDV valves shall be painted with Red color as well as actuator of XV valves shall be painted by Blue color.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |



## Shut Down Valve

| TAG NO: | ESDV-2101 | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0002_D08 | SERVICE: | Gas Compression Inlet Gas Pipeline (Binak) |
|---|---|---|---|---|---|
| FLUID STATE: | PROCESS GAS | PHASE: | GAS | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 7220.4928 | 6564 | 1969.23 | - |
| | 2 | INLET PRESSURE | bar(g) | 7.5 | 7.5 | 7.5 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 7.5 | 7.5 | 7.5 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | °C | 26.67~46.11 | 26.67~46.11 | 26.67~46.11 | - |
| | 6 | DENSITY | kg/m3 | 5.43 ~ 6.66 | 5.43 ~ 6.66 | 5.43 ~ 6.66 | - |
| | 7 | VISCOSITY | CP | 0.011 ~ 0.012 | 0.011 ~ 0.012 | 0.011 ~ 0.012 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 107.1 | 107.1 | 107.1 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 6" 80 | CORROSION ALLOWANCE(mm) | 6 |
| | | | OUT | 6" 80 | | |
| | 11 | LINE NO. | GAS-111-0001-AN07-6"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | OUT | Full Bore Ball Valve/Trunnion Mounted | | |
| | 13 | SIZE | OUT | 6" | | |
| | 14 | MAX PRESS./TEMP. | OUT | As per PMS | | |
| | 15 | MFR. & MODEL | OUT | Will be finalized later | | |
| | 16 | BODY / BONNET MATL | OUT | ASTM A216 Gr. WCB | | |
| | 17 | LINER MATERIAL / ID | OUT | VTA | | |
| | 18 | END CONNECTION | IN | 6" /300# | | |
| | | | OUT | 6" /300# | | |
| | 19 | FLG FACE FINISH | | RF | | |
| | 20 | END EXT./MATL. | | N/A | | |
| | 21 | FLOW DIRECTION | | (Note 18 in Page 4) | | |
| | 22 | TYPE OF BONNET | | Standard | | |
| | 23 | LUBE & ISO VALVE | | No | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | | Top Entry | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | YES | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | | | On/Off | |
| | 30 | BALANCED / UNBALANCED | | | BALANCED | |
| | 31 | RATED Cv | FL | XT | VTA | VTA | VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | | | 316 SS | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | | | VTA | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | | | ANSI Class VI | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | | YES | |
| SOLENOID VALVE | 38 | TAG NO | | | ESOV-2101 | |
| | 39 | TYPE | | | 3 Way | |
| | 40 | BODY MATERIAL | WEATHER IP. | | AISI 316 S.S | IP-65 |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | | EEx "d" ,IIB T4 | ISO M20 x 1.5 |
| | 42 | MANUAL RESET | | | Yes | |
| | 43 | Power Supply | | | 24 VDC | |
| | 44 | Pnu. Connection | | | 1/4" NPT | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | | No | |
| | 46 | BLOCK RELAY | | | No | |
| | 47 | QUICK EXHUST | | | Yes | |
| | 49 | FILTER REGULATOR | | | Yes | |
| | 50 | VOLUME TANK | | | No | |
| | 51 | MECHANICAL POSITION INDICATOR | | | Required | |
| | 52 | MANUAL PNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | | | Yes | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting , Spring Return |
| | 54 | SIZE | | VTA |
| | 55 | SPRING FAIL ACTION | | Fail to Close |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA |
| | 57 | MIN REQUIRES PRESSURE | | VTA |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g |
| | 59 | BENCH RANGE | | VTA |
| | 60 | TRAVELING TIME | | 6 S |
| | 61 | FUNCTION | | On/Off |
| | 62 | LOCAL POSITION INDICATOR | | Required |
| | 63 | ACT. ORIENTATION | | VTA |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes |
| | 66 | INPUT SIGNAL | | 24VDC |
| | 67 | MFR. & MODEL | | Will be finalized later |
| POSITIONER | 68 | TYPE | | N/A |
| | 69 | MFR. & MODEL | | Will be finalized later |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A |
| | 71 | GAUGES | | N/A |
| | 72 | CAM CHARACTERISTIC | | N/A |
| | 73 | AIR CONNECTION | | N/A |
| LIMIT SWITCHES | 74 | TAG NO. : | | EZSC-2101 / EZSO-2101 |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A |
| | 77 | ACTUATION POINT | | Fully Open/Close |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum |
| | 79 | WEATHER PROTECTION | | IP-65 |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later |
| AIR SET | 82 | SET PRESSURE | | Yes |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | | Will be finalized later |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required |
| | 87 | HYDRO PRESSURE | | Required |
| | 88 | FUNCTIONAL TEST | | Required |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | Yes |
| | 93 | API 6FA REQUIREMENTS | | Yes |
| | 94 | SIL 3 REQUIREMENTS | | Yes |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک سطح‌الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 6 از 44

## Shut Down Valve

| TAG NO: | ESDV-2102 | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0003-D08 | SERVICE: | Gas Compression Inlet Gas Pipeline (Golkhari) |
|---|---|---|---|---|---|
| FLUID STATE: | PROCESS GAS | PHASE: | GAS | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 12395.9 | 11269.0 | 3380.0 | - |
| | 2 | INLET PRESSURE | bar(g) | 7.5 | 7.5 | 7.5 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 7.5 | 7.5 | 7.5 | 90 |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | - |
| | 5 | INLET TEMPERATURE | ºC | 15.5 ~ 32 | 15.5 ~ 32 | 15.5 ~ 32 | - |
| | 6 | DENSITY | kg/m3 | 6.19 ~6.21 | 6.19 ~6.21 | 6.19 ~6.21 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 103.1 | 103.1 | 103.1 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 8" 100 / OUT 8" 100 | CORROSION ALLOWANCE(mm) | 6 | |
| | 11 | LINE NO. | GAS-111-0001-FN07-8"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 8" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN: 8" /600# | OUT: 8" /600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | Forged, 13% chromium steel |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | ESOV-2102 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUAL PNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting , Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 9 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | EZSC-2102 / EZSO-2102 | |
| | 75 | TYPE / QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE / ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES / FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | Yes | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 7 از 44 |

D02

## Shut Down Valve

| TAG NO: | ESDV-2113 | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0005-D08 | SERVICE: | Gas Compression Inlet Knock Out Drum to Closed Drain |
|---|---|---|---|---|---|
| FLUID STATE: | CLOSED DRAIN HYDROCARBON | PHASE: | Lliquid | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 1119.5 | 1017.8 | 305.3 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.3 | 5.3 | 5.3 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.3 | 5.3 | 5.3 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 13.9 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~36.9 | 19.02~36.9 | 19.02~36.9 | - |
| | 6 | DENSITY | kg/m3 | 842.6~1012 | 842.6~1012 | 842.6~1012 | - |
| | 7 | VISCOSITY | CP | 0.69 ~ 1.026 | 0.69 ~ 1.026 | 0.69 ~ 1.026 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 0.612 | 0.612 | 0.612 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.4 | 221.4 | 221.4 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" SCH.10S<br>OUT 2" SCH.10S | CORROSION ALLOWANCE(mm) | 0 | |
| | 11 | LINE NO. | CDH-111-0019-AS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN: 2" /300#<br>OUT: 2" /300# | | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE: PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE: MATERIAL: VTA | 316 SS+PTFE | | |
| | 28 | SIZE | RATED TRAVEL: VTA | VTA | | |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL: VTA | XT: VTA | VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE: Soft Seat | MATERIAL: PTFE | | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE: Anti-Blow Out | MATERIAL: 316 SS | | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | ESOV-2113 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP.: AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION: EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUAL PNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting , Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | EZSC-2113 / EZSO-2113 | |
| | 75 | TYPE: Magnetically operated 'REED' contacts | QUANTITY: 2 | |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE: EEx "d" ,IIB T4 | ELEC. CONNECTION: ISO M20 × 1.5 | |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES: Required | FILTER: Required | |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 8 از 44 |

D02

## Shut Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **ESDV-2272** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0022-D08 | **SERVICE:** | Fuel Gas System |
| **FLUID STATE:** | FUEL GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 556.3 | 505.8 | 151.7 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 37 | 37 | 37 | - |
| | 6 | DENSITY | kg/m3 | 5.77 | 5.77 | 5.77 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.66 | 94.66 | 94.66 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 3" | 80 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 3" | 80 | |
| | 11 | LINE NO. | GAS-111-0004-AN07-3"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 3" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 3" /300# | | |
| | | | OUT | 3" /300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | ESOV-2272 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUAL PNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting , Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | EZSC-2272 / EZSO-2272 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | HIRGAN ENERGY |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |



## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2110** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0005-D08 | **SERVICE:** | Gas Compression Inlet Knock Out Drum to Flare Header |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 5665.4 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 5.3 ~ 9 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 5.3 ~ 9 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | °C | - | 19 ~ 37.17 | - | - |
| | 6 | DENSITY | kg/m3 | - | 5.96 ~ 1012 | - | - |
| | 7 | VISCOSITY | CP | - | 0.011 ~ 0.0115 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 3" | 160 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 3 | 160 | |
| | 11 | LINE NO. | GAS-111-0225-AN07-3"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 3" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 3"/300# | | |
| | | | OUT | 3"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | BSOV-2110 , PSOV-2110 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Open | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | BZSC-2110 / BZSO-2110 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح‌الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

**Data Sheets For ON/OFF & Shutdown Valves**

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 |



D02

## Blow Down Valve

| | | | |
|---|---|---|---|
| **TAG NO:** | **BDV-2134A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0009-D08 (1/3) |
| **SERVICE:** | 2nd Stage Gas Compression Suction Drums | | |
| **FLUID STATE:** | VENT GAS | **PHASE:** | GAS |
| **AREA CLASSIFICATION:** | Zone2, IIB, T4 | | |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 796.4 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 18.1~ 22 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 18.1~ 22 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 47.7 |
| | 5 | INLET TEMPERATURE | ºC | - | 22 ~ 59.88 | - | - |
| | 6 | DENSITY | kg/m3 | - | 18.08~ 1011 | - | - |
| | 7 | VISCOSITY | CP | - | 0.013 ~0.98 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 80 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 2" | 80 | |
| | 11 | LINE NO. | GAS-111-0160A-CN05-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/ Floating Type | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2" /300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | BSOV-2134A , PSOV-2134A | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting , Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Open | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 5 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Declutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | No | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | BZSC-2134A / BZSO-2134A | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | No | | |
| | 92 | API 6FA REQUIREMENTS | No | | |
| | 93 | SIL 3 REQUIREMENTS | Yes | | |
| | 94 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 95 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 11 از 44 |

D02

## Blow Down Valve

| TAG NO: | BDV-2134B | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0009-D08 (2/3) | SERVICE: | 2nd Stage Gas Compression Suction Drums |
|---|---|---|---|---|---|
| FLUID STATE: | VENT GAS | PHASE: | GAS | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 796.4 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 18.1~ 22 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 18.1~ 22 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 47.7 |
| | 5 | INLET TEMPERATURE | ºC | - | 22 ~ 59.88 | - | - |
| | 6 | DENSITY | kg/m3 | - | 18.08~ 1011 | - | - |
| | 7 | VISCOSITY | CP | - | 0.013 ~0.98 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 80 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 2" | 80 | |
| | 11 | LINE NO. | GAS-111-0160B-CN05-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/ Floating Type | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2" /300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | BSOV-2134B , PSOV-2134B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting , Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Open | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Declutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | No | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | BZSC-2134B / BZSO-2134B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | | No | |
| | 92 | API 6FA REQUIREMENTS | | No | |
| | 93 | SIL 3 REQUIREMENTS | | Yes | |
| | 94 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 95 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

NISOC

**نگهداشت و افزایش تولید میدان نفتی بینک**
**سطح‌الارض**

**احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک**

**Data Sheets For ON/OFF & Shutdown Valves**

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
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D02



## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2134C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0009-D08 (3/3) | **SERVICE:** | 2nd Stage Gas Compression Suction Drums |
| **FLUID STATE:** | VENT GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 796.4 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 18.1~ 22 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 18.1~ 22 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 47.7 |
| | 5 | INLET TEMPERATURE | ºC | - | 22 ~ 59.88 | - | - |
| | 6 | DENSITY | kg/m3 | - | 18.08~ 1011 | - | - |
| | 7 | VISCOSITY | CP | - | 0.013 ~0.98 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 80 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 2" | 80 | |
| | 11 | LINE NO. | GAS-111-0160C-CN05-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/ Floating Type | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2" /300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | BSOV-2134C , PSOV-2134C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting , Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Open | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 5 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Declutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | No | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | BZSC-2134C / BZSO-2134C | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | No | | |
| | 92 | API 6FA REQUIREMENTS | No | | |
| | 93 | SIL 3 REQUIREMENTS | Yes | | |
| | 94 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 95 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 13 از 44 |

D02

## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2132A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (1/3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | VENT GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 1414 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 54.1 ~ 62 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 54.1 ~ 62 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | ºC | - | 22 ~ 60 | - | - |
| | 6 | DENSITY | kg/m3 | - | 59.63~ 1012 | - | - |
| | 7 | VISCOSITY | CP | - | 0.014 ~ 0.976 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 1 1/2" | 40S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 1 1/2" | 40S | |
| | 11 | LINE NO. | GAS-111-00054A-FS00-1 1/2"-IS | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| VALVE BODY & BONNET | 12 | TYPE | | | Full Bore Ball Valve/ Floating Type | |
| | 13 | SIZE | | | 1 1/2" | |
| | 14 | MAX PRESS./TEMP. | | | As per PMS | |
| | 15 | MFR. & MODEL | | | Will be finalized later | |
| | 16 | BODY / BONNET MATL | | | ASTM A351 GR.CF3M | |
| | 17 | LINER MATERIAL / ID | | | VTA | |
| | 18 | END CONNECTION | IN | | 1 1/2" /600# | |
| | | | OUT | | 1 1/2" /600# | |
| | 19 | FLG FACE FINISH | | | RF | |
| | 20 | END EXT./MATL. | | | N/A | |
| | 21 | FLOW DIRECTION | | | (Note 18 in Page 4) | |
| | 22 | TYPE OF BONNET | | | Standard | |
| | 23 | LUBE & ISO VALVE | | | No | |
| | 24 | PACKING MATERIAL | PACKING TYPE | | PTFE | Standard |
| | 25 | ENTRY DESIGN | | | Top Entry | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | | YES | |

| | | | | | | |
|---|---|---|---|---|---|---|
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | | | On/Off | |
| | 30 | BALANCED / UNBALANCED | | | BALANCED | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | | | 316 SS | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | | | VTA | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | | | ANSI Class VI | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | | YES | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SOLENOID VALVE | 38 | TAG NO | | | BSOV-2132A , PSOV-2132A | |
| | 39 | TYPE | | | 3 Way | |
| | 40 | BODY MATERIAL | | WEATHER IP. | AISI 316 S.S | IP-65 |
| | 41 | ELE. CERTIFICATE | | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 |
| | 42 | MANUAL RESET | | | Yes | |
| | 43 | Power Supply | | | 24 VDC | |
| | 44 | Pnu. Connection | | | 1/4" NPT | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | | No | |
| | 46 | BLOCK RELAY | | | No | |
| | 47 | QUICK EXHUST | | | Yes | |
| | 49 | FILTER REGULATOR | | | Yes | |
| | 50 | VOLUME TANK | | | No | |
| | 51 | MECHANICAL POSITION INDICATOR | | | Required | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | | Single Acting , Spring Return |
| | 54 | SIZE | | | VTA |
| | 55 | SPRING FAIL ACTION | | | Fail to Open |
| | 56 | MAX ALLOWABLE PRESSURE | | | VTA |
| | 57 | MIN REQUIRES PRESSURE | | | VTA |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | | MAX/NOR/MIN: 10/7/3 bar-g |
| | 59 | BENCH RANGE | | | VTA |
| | 60 | TRAVELING TIME | | | 5 S |
| | 61 | FUNCTION | | | On/Off |
| | 62 | LOCAL POSITION INDICATOR | | | Required |
| | 63 | ACT. ORIENTATION | | | VTA |
| | 64 | HAND WHEEL TYPE | | | Declutchable side mounted |
| | 65 | ADJUSTABLE LIMIT STOP | | | No |
| | 66 | INPUT SIGNAL | | | 24VDC |
| | 67 | MFR. & MODEL | | | Will be finalized later |
| POSITIONER | 68 | TYPE | | | N/A |
| | 69 | MFR. & MODEL | | | Will be finalized later |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | | N/A |
| | 71 | GAUGES | | | N/A |
| | 72 | CAM CHARACTERISTIC | | | N/A |
| | 73 | AIR CONNECTION | | | N/A |
| LIMIT SWITCHES | 74 | TAG NO. : | | | BZSC-2132A / BZSO-2132A |
| | 75 | TYPE | QUANTITY | | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | | | 110V DC , 10A |
| | 77 | ACTUATION POINT | | | Fully Open/Close |
| | 78 | ENCLOSURE MATERIAL | | | Die Cast Aluminum |
| | 79 | WEATHER PROTECTION | | | IP-65 |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | | Will be finalized later |
| AIR SET | 82 | SET PRESSURE | | | Yes |
| | 83 | PNEUMATIC CONNECTION | | | 1/4" NPT |
| | 84 | GAUGES | FILTER | | Required / Required |
| | 85 | MFR. & MODEL | | | Will be finalized later |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | | Required |
| | 87 | HYDRO PRESSURE | | | Required |
| | 88 | FUNCTIONAL TEST | | | Required |
| | 89 | | | | |
| | 90 | | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | | | No |
| | 92 | API 6FA REQUIREMENTS | | | No |
| | 93 | SIL 3 REQUIREMENTS | | | Yes |
| | 94 | PARTIAL STROKING VALVE TEST | | | Yes |
| | 95 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 14 از 44 |

D02

## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2132B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (2/3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | VENT GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 1414 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 54.1 ~ 62 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 54.1 ~ 62 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | ºC | - | 22 ~ 60 | - | - |
| | 6 | DENSITY | kg/m3 | - | 59.63~ 1012 | - | - |
| | 7 | VISCOSITY | CP | - | 0.014 ~ 0.976 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 1 1/2" | 40S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 1 1/2" | 40S | |
| | 11 | LINE NO. | GAS-111-0054B-FS00-1 1/2"-IS | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/ Floating Type | | | |
| | 13 | SIZE | 1 1/2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 1 1/2" /600# | | |
| | | | OUT | 1 1/2" /600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | BSOV-2132B , PSOV-2132B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | No | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting , Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Open | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 5 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Declutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | No | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | BZSC-2132B / BZSO-2132B | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | No | | |
| | 92 | API 6FA REQUIREMENTS | No | | |
| | 93 | SIL 3 REQUIREMENTS | Yes | | |
| | 94 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 95 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 15 از 44 |

D02

## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2132C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (3/3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | VENT GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 1414 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 54.1 ~ 62 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 54.1 ~ 62 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | ºC | - | 22 ~ 60 | - | - |
| | 6 | DENSITY | kg/m3 | - | 59.63~ 1012 | - | - |
| | 7 | VISCOSITY | CP | - | 0.014 ~ 0.976 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 94.65 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 1 1/2" | 40S | ! | 0 |
| | | | OUT | 1 1/2" | 40S | | |
| | 11 | LINE NO. | GAS-111-0054C-FS00-1 1/2"-IS | | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/ Floating Type | | | | |
| | 13 | SIZE | 1 1/2" | | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | | |
| | 18 | END CONNECTION | IN | 1 1/2" /600# | | | |
| | | | OUT | 1 1/2" /600# | | | |
| | 19 | FLG FACE FINISH | RF | | | | |
| | 20 | END EXT./MATL. | N/A | | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | | |
| | 22 | TYPE OF BONNET | Standard | | | | |
| | 23 | LUBE & ISO VALVE | No | | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE | |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA | |
| | 29 | CHARACTERISTICS | On/Off | | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA | VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | | |
| SOLENOID VALVE | 38 | TAG NO | BSOV-2132C , PSOV-2132C | | | | |
| | 39 | TYPE | 3 Way | | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | | |
| | 43 | Power Supply | 24 VDC | | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | | |
| | 46 | BLOCK RELAY | No | | | | |
| | 47 | QUICK EXHUST | Yes | | | | |
| | 49 | FILTER REGULATOR | Yes | | | | |
| | 50 | VOLUME TANK | No | | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting , Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Open | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Declutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | No | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | BZSC-2132C / BZSO-2132C | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | | No | |
| | 92 | API 6FA REQUIREMENTS | | No | |
| | 93 | SIL 3 REQUIREMENTS | | Yes | |
| | 94 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 95 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 16 از 44 |

D02

## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2141** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0012-D08 | **SERVICE:** | 2nd Stage Gas Compression Discharge Drum |
| **FLUID STATE:** | FLARE GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | | 1825 | | - |
| | 2 | INLET PRESSURE | bar(g) | 53.9 ~ 62 | 53.9 ~ 62 | 53.9 ~ 62 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 53.9 ~ 62 | 53.9 ~ 62 | 53.9 ~ 62 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 90 |
| | 5 | INLET TEMPERATURE | ºC | 21 ~ 59.89 | 21 ~ 59.89 | 21 ~ 59.89 | - |
| | 6 | DENSITY | kg/m3 | 59.17 ~ 1012 | 59.17 ~ 1012 | 59.17 ~ 1012 | - |
| | 7 | VISCOSITY | CP | 0.014 ~ 0.976 | 0.014 ~ 0.976 | 0.014 ~ 0.976 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 106 | 106 | 106 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 1 1/2" | 160 | CORROSION ALLOWANCE(mm): 3 |
| | | | OUT | 1 1/2" | 160 | |
| | 11 | LINE NO. | GAS-111-0065-FN05-1 1/2"-IS | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| VALVE BODY & BONNET | 12 | TYPE | | | Full Bore Ball Valve/ Floating Type | |
| | 13 | SIZE | | | 1 1/2" | |
| | 14 | MAX PRESS./TEMP. | | | As per PMS | |
| | 15 | MFR. & MODEL | | | Will be finalized later | |
| | 16 | BODY / BONNET MATL | | | ASTM A216 Gr. WCB | |
| | 17 | LINER MATERIAL / ID | | | VTA | |
| | 18 | END CONNECTION | IN | | 1 1/2" /600# | |
| | | | OUT | | 1 1/2" /600# | |
| | 19 | FLG FACE FINISH | | | RF | |
| | 20 | END EXT./MATL. | | | N/A | |
| | 21 | FLOW DIRECTION | | | (Note 18 in Page 4) | |
| | 22 | TYPE OF BONNET | | | Standard | |
| | 23 | LUBE & ISO VALVE | | | No | |
| | 24 | PACKING MATERIAL | PACKING TYPE | | PTFE | Standard |
| | 25 | ENTRY DESIGN | | | Top Entry | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | | YES | |

| | | | | | | |
|---|---|---|---|---|---|---|
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | | | On/Off | |
| | 30 | BALANCED / UNBALANCED | | | BALANCED | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | | | 316 SS | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | | | VTA | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | | | ANSI Class VI | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | | YES | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SOLENOID VALVE | 38 | TAG NO | | | BSOV-2141 | |
| | 39 | TYPE | | | 3 Way | |
| | 40 | BODY MATERIAL | | WEATHER IP. | AISI 316 S.S | IP-65 |
| | 41 | ELE. CERTIFICATE | | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 |
| | 42 | MANUAL RESET | | | Yes | |
| | 43 | Power Supply | | | 24 VDC | |
| | 44 | Pnu. Connection | | | 1/4" NPT | |

| | | | |
|---|---|---|---|
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No |
| | 46 | BLOCK RELAY | No |
| | 47 | QUICK EXHUST | Yes |
| | 49 | FILTER REGULATOR | Yes |
| | 50 | VOLUME TANK | No |
| | 51 | MECHANICAL POSITION INDICATOR | Required |

| | | | |
|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting , Spring Return |
| | 54 | SIZE | VTA |
| | 55 | SPRING FAIL ACTION | Fail to Open |
| | 56 | MAX ALLOWABLE PRESSURE | VTA |
| | 57 | MIN REQUIRES PRESSURE | VTA |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g |
| | 59 | BENCH RANGE | VTA |
| | 60 | TRAVELING TIME | 5 S |
| | 61 | FUNCTION | On/Off |
| | 62 | LOCAL POSITION INDICATOR | Required |
| | 63 | ACT. ORIENTATION | VTA |
| | 64 | HAND WHEEL TYPE | Declutchable side mounted |
| | 65 | ADJUSTABLE LIMIT STOP | No |
| | 66 | INPUT SIGNAL | 24VDC |
| | 67 | MFR. & MODEL | Will be finalized later |

| | | | |
|---|---|---|---|
| POSITIONER | 68 | TYPE | N/A |
| | 69 | MFR. & MODEL | Will be finalized later |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A |
| | 71 | GAUGES | N/A |
| | 72 | CAM CHARACTERISTIC | N/A |
| | 73 | AIR CONNECTION | N/A |

| | | | | |
|---|---|---|---|---|
| LIMIT SWITCHES | 74 | TAG NO. : | | BZSC-2141 / BZSO-2141 |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A |
| | 77 | ACTUATION POINT | | Fully Open/Close |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum |
| | 79 | WEATHER PROTECTION | | IP-65 |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later |

| | | | | |
|---|---|---|---|---|
| AIR SET | 82 | SET PRESSURE | | Yes |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | | Will be finalized later |

| | | | |
|---|---|---|---|
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required |
| | 87 | HYDRO PRESSURE | Required |
| | 88 | FUNCTIONAL TEST | Required |
| | 89 | | |
| | 90 | | |

| | | | |
|---|---|---|---|
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | No |
| | 92 | API 6FA REQUIREMENTS | No |
| | 93 | SIL 3 REQUIREMENTS | Yes |
| | 94 | PARTIAL STROKING VALVE TEST | Yes |
| | 95 | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

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| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

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## Blow Down Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **BDV-2151** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0013-D08 | **SERVICE:** | Dehydration Package |
| **FLUID STATE:** | VENT GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 4843 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 52.9 ~ 62 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 52.9 ~ 62 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 90 |
| | 5 | INLET TEMPERATURE | °C | - | 22~ 59.4 | - | - |
| | 6 | DENSITY | kg/m3 | - | 58.06 ~ 1012 | - | - |
| | 7 | VISCOSITY | CP | - | 0.013 ~ 0.964 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 105.9 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 3" | 80 | CORROSION ALLOWANCE(mm) | 6 |
| | | | OUT | 3" | 80 | | |
| | 11 | LINE NO. | GAS-111-0071-FN05-3"-IS | | | | |
| VALVE BODY & BONNET | 12 | TYPE | | | Full Bore Ball Valve/ Floating Type | | |
| | 13 | SIZE | | | 3" | | |
| | 14 | MAX PRESS./TEMP. | | | As per PMS | | |
| | 15 | MFR. & MODEL | | | Will be finalized later | | |
| | 16 | BODY / BONNET MATL | | | ASTM A216 Gr. WCB | | |
| | 17 | LINER MATERIAL / ID | | | VTA | | |
| | 18 | END CONNECTION | IN | | 3" /600# | | |
| | | | OUT | | 3" /600# | | |
| | 19 | FLG FACE FINISH | | | RF | | |
| | 20 | END EXT./MATL. | | | N/A | | |
| | 21 | FLOW DIRECTION | | | (Note 18 in Page 4) | | |
| | 22 | TYPE OF BONNET | | | Standard | | |
| | 23 | LUBE & ISO VALVE | | | No | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | | PTFE | Standard | |
| | 25 | ENTRY DESIGN | | | Top Entry | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | | YES | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE | |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA | |
| | 29 | CHARACTERISTICS | | | On/Off | | |
| | 30 | BALANCED / UNBALANCED | | | BALANCED | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA | VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | | | 316 SS | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE | |
| | 34 | CAGE / GUIDE MATERIAL | | | VTA | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | | | ANSI Class VI | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | | YES | | |
| SOLENOID VALVE | 38 | TAG NO | | | BSOV-2151 | | |
| | 39 | TYPE | | | 3 Way | | |
| | 40 | BODY MATERIAL | WEATHER IP. | | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | | | Yes | | |
| | 43 | Power Supply | | | 24 VDC | | |
| | 44 | Pnu. Connection | | | 1/4" NPT | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | | No | | |
| | 46 | BLOCK RELAY | | | No | | |
| | 47 | QUICK EXHUST | | | Yes | | |
| | 49 | FILTER REGULATOR | | | Yes | | |
| | 50 | VOLUME TANK | | | No | | |
| | 51 | MECHANICAL POSITION INDICATOR | | | Required | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting , Spring Return |
| | 54 | SIZE | | VTA |
| | 55 | SPRING FAIL ACTION | | Fail to Open |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA |
| | 57 | MIN REQUIRES PRESSURE | | VTA |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g |
| | 59 | BENCH RANGE | | VTA |
| | 60 | TRAVELING TIME | | 5 S |
| | 61 | FUNCTION | | On/Off |
| | 62 | LOCAL POSITION INDICATOR | | Required |
| | 63 | ACT. ORIENTATION | | VTA |
| | 64 | HAND WHEEL TYPE | | Declutchable side mounted |
| | 65 | ADJUSTABLE LIMIT STOP | | No |
| | 66 | INPUT SIGNAL | | 24VDC |
| | 67 | MFR. & MODEL | | Will be finalized later |
| POSITIONER | 68 | TYPE | | N/A |
| | 69 | MFR. & MODEL | | Will be finalized later |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A |
| | 71 | GAUGES | | N/A |
| | 72 | CAM CHARACTERISTIC | | N/A |
| | 73 | AIR CONNECTION | | N/A |
| LIMIT SWITCHES | 74 | TAG NO. : | | BZSC-2151 / BZSO-2151 |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A |
| | 77 | ACTUATION POINT | | Fully Open/Close |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum |
| | 79 | WEATHER PROTECTION | | IP-65 |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later |
| AIR SET | 82 | SET PRESSURE | | Yes |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | | Will be finalized later |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required |
| | 87 | HYDRO PRESSURE | | Required |
| | 88 | FUNCTIONAL TEST | | Required |
| | 89 | | | |
| | 90 | | | |
| FIRE PROOF DESIGN | 91 | PASSIVE FIRE PROTECTION | | No |
| | 92 | API 6FA REQUIREMENTS | | No |
| | 93 | SIL 3 REQUIREMENTS | | Yes |
| | 94 | PARTIAL STROKING VALVE TEST | | Yes |
| | 95 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
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| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 18 از 44 |

D02

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2112** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0004-D09 (2/2) | **SERVICE:** | Slug Catcher System |
| **FLUID STATE:** | SLUG | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | Kg/H | 7873.8 | 7158.0 | 2505.3 | - |
| | 2 | INLET PRESSURE | bar(g) | 18.5 | 18.5 | 18.5 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 18.5 | 18.5 | 18.5 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 47.7 |
| | 5 | INLET TEMPERATURE | °C | 15.2~ 32.0 | 15.2~ 32.0 | 15.2~ 32.0 | - |
| | 6 | DENSITY | kg/m3 | 715 | 715 | 715 | - |
| | 7 | VISCOSITY | CP | 0.58 | 0.58 | 0.58 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 6.487 | 6.487 | 6.487 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 78 | 78 | 78 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 4" | 40 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 4" | 40 | |
| | 11 | LINE NO. | CDH-112-118-CN07-4"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 4" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 4"/300# | | |
| | | | OUT | 4"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | ESOV-2112 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2112 / XZSO-2112 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

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## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2121A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (1/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664.0 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~ 36.92 | 19.02~ 36.92 | 19.02~ 36.92 | - |
| | 6 | DENSITY | kg/m3 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.65 | 94.65 | 94.65 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 8" | 60 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 8" | 60 | |
| | 11 | LINE NO. | GAS-111-0026A-AN07-8"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 8" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 8"/300# | | |
| | | | OUT | 8"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2121A , ESOV-2121A | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 9 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2121A / XZSO-2121A | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 20 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2121B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (2/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664.0 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~ 36.92 | 19.02~ 36.92 | 19.02~ 36.92 | - |
| | 6 | DENSITY | kg/m3 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.65 | 94.65 | 94.65 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 8" | 60 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 8" | 60 | |
| | 11 | LINE NO. | GAS-111-0026B-AN27-8"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 8" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 8"/300# | | |
| | | | OUT | 8"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2121B, ESOV-2121B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 9 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2121B / XZSO-2121B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 21 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2121C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (3/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664.0 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~ 36.92 | 19.02~ 36.92 | 19.02~ 36.92 | - |
| | 6 | DENSITY | kg/m3 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.65 | 94.65 | 94.65 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 8" | 60 | CORROSION ALLOWANCE(mm) 6 |
| | | | OUT | 8" | 60 | |
| | 11 | LINE NO. | GAS-111-0026C-AN07-8"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 8" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 8"/300# | | |
| | | | OUT | 8"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2121C, ESOV-2121C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 9 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2121C / XZSO-2121C | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 22 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2122A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (1/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 10000 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 13.9 |
| | 5 | INLET TEMPERATURE | ºC | - | 36.78 | - | - |
| | 6 | DENSITY | kg/m3 | - | 998.5 | - | - |
| | 7 | VISCOSITY | CP | - | 0.69 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 0.61 | 0.61 | 0.61 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.3 | 221.3 | 221.3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 10S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 2" | 10S | |
| | 11 | LINE NO. | CDH-112-0021A-CS00-2"-NP | | | |

| | | | | | |
|---|---|---|---|---|---|
| VALVE BODY & BONNET | 12 | TYPE | | Full Bore Ball Valve/Trunnion Mounted | |
| | 13 | SIZE | | 2" | |
| | 14 | MAX PRESS./TEMP. | | As per PMS | |
| | 15 | MFR. & MODEL | | Will be finalized later | |
| | 16 | BODY / BONNET MATL | | ASTM A351 GR.CF3M | |
| | 17 | LINER MATERIAL / ID | | VTA | |
| | 18 | END CONNECTION | IN | 2"/300# | |
| | | | OUT | 2"/300# | |
| | 19 | FLG FACE FINISH | | RF | |
| | 20 | END EXT./MATL. | | N/A | |
| | 21 | FLOW DIRECTION | | (Note 18 in Page 4) | |
| | 22 | TYPE OF BONNET | | Standard | |
| | 23 | LUBE & ISO VALVE | | No | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard |
| | 25 | ENTRY DESIGN | | Top Entry | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | No | |

| | | | | | | |
|---|---|---|---|---|---|---|
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | | | On/Off | |
| | 30 | BALANCED / UNBALANCED | | | BALANCED | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | | | 316 SS | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | | | VTA | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | | | ANSI Class VI | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | | YES | |

| | | | | | |
|---|---|---|---|---|---|
| SOLENOID VALVE | 38 | TAG NO | | PSOV-2122A , ESOV-2122A | |
| | 39 | TYPE | | 3 Way | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 |
| | 42 | MANUAL RESET | | Yes | |
| | 43 | Power Supply | | 24 VDC | |
| | 44 | Pnu. Connection | | 1/4" NPT | |

| | | | |
|---|---|---|---|
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No |
| | 46 | BLOCK RELAY | No |
| | 47 | QUICK EXHUST | Yes |
| | 49 | FILTER REGULATOR | Yes |
| | 50 | VOLUME TANK | Yes |
| | 51 | MECHANICAL POSITION INDICATOR | Required |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2122A / XZSO-2122A | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 23 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2122B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (2/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 10000 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 13.9 |
| | 5 | INLET TEMPERATURE | ºC | - | 36.78 | - | - |
| | 6 | DENSITY | kg/m3 | - | 998.5 | - | - |
| | 7 | VISCOSITY | CP | - | 0.69 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 0.61 | 0.61 | 0.61 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.3 | 221.3 | 221.3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 10S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 2" | 10S | |
| | 11 | LINE NO. | CDH-112-0021B-CS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2122B , ESOV-2122B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2122B / XZSO-2122B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 24 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2122C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (3/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 10000 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 13.9 |
| | 5 | INLET TEMPERATURE | ºC | - | 36.78 | - | - |
| | 6 | DENSITY | kg/m3 | - | 998.5 | - | - |
| | 7 | VISCOSITY | CP | - | 0.69 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 0.61 | 0.61 | 0.61 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.3 | 221.3 | 221.3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 10S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 2" | 10S | |
| | 11 | LINE NO. | CDH-112-0021C-CS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2122C , ESOV-2122C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2122C / XZSO-2122C | |
| | 75 | TYPE / QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE / ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES / FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 25 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2123A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (1/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | Process Gas | **PHASE:** | Gas | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664.0 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~ 36.92 | 19.02~ 36.92 | 19.02~ 36.92 | - |
| | 6 | DENSITY | kg/m3 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.65 | 94.65 | 94.65 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 160 | CORROSION ALLOWANCE(mm) | 6 |
| | | | OUT | 2" | 160 | | |
| | 11 | LINE NO. | GAS-111-0024A-AN07-2"-PT | | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | | |
| | 13 | SIZE | 2" | | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | | |
| | | | OUT | 2"/300# | | | |
| | 19 | FLG FACE FINISH | RF | | | | |
| | 20 | END EXT./MATL. | N/A | | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | | |
| | 22 | TYPE OF BONNET | Standard | | | | |
| | 23 | LUBE & ISO VALVE | No | | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA | |
| | 29 | CHARACTERISTICS | On/Off | | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA | VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2123A , ESOV-2123A | | | | |
| | 39 | TYPE | 3 Way | | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | | |
| | 43 | Power Supply | 24 VDC | | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | | |
| | 46 | BLOCK RELAY | No | | | | |
| | 47 | QUICK EXHUST | Yes | | | | |
| | 49 | FILTER REGULATOR | Yes | | | | |
| | 50 | VOLUME TANK | Yes | | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2123A / XZSO-2123A | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 26 از 44 |

D02

## On-Off Valve

| TAG NO: | XV-2123B | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0006-D09 (2/3) | SERVICE: | 1st Stage Gas Compression Suction Drums |
|---|---|---|---|---|---|
| FLUID STATE: | Process Gas | PHASE: | Gas | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664.0 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~ 36.92 | 19.02~ 36.92 | 19.02~ 36.92 | - |
| | 6 | DENSITY | kg/m3 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.65 | 94.65 | 94.65 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" 160 / OUT 2" 160 | CORROSION ALLOWANCE(mm) | 6 | |
| | 11 | LINE NO. | GAS-111-0024B-AN07-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN: 2"/300# / OUT: 2"/300# | | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE: PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL: VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL: VTA | VTA | | |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL: VTA | XT: VTA | VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL: Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL: Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2123B , ESOV-2123B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP.: AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION: EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Close | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 5 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2123B / XZSO-2123B | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | | |
| | 93 | API 6FA REQUIREMENTS | Yes | | |
| | 94 | SIL 3 REQUIREMENTS | Yes | | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 27 از 44 |

D02

## On-Off Valve

| TAG NO: | XV-2123C | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0006-D09 (3/3) | SERVICE: | 1st Stage Gas Compression Suction Drums |
|---|---|---|---|---|---|
| FLUID STATE: | Process Gas | PHASE: | Gas | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664.0 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 5.1 | 5.1 | 5.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | ºC | 19.02~ 36.92 | 19.02~ 36.92 | 19.02~ 36.92 | - |
| | 6 | DENSITY | kg/m3 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | 5.56 ~ 5.96 | - |
| | 7 | VISCOSITY | CP | 0.011 | 0.011 | 0.011 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.65 | 94.65 | 94.65 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" 160 / OUT 2" 160 | CORROSION ALLOWANCE(mm) | 6 | |
| | 11 | LINE NO. | GAS-111-0024C-AN07-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN: 2"/300# / OUT: 2"/300# | | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE: PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL: VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL: VTA | VTA | | |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL: VTA | XT: VTA | VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL: Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL: Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2123C , ESOV-2123C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP.: AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION: EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2123C / XZSO-2123C | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 28 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2124A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (1/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | Gas | **PHASE:** | Nitrogen | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 25 | - | |
| | 2 | INLET PRESSURE | bar(g) | - | 7.5 | - | |
| | 3 | OUTLET PRESSURE | bar(g) | - | 7.5 | - | |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 12.5 |
| | 5 | INLET TEMPERATURE | ºC | - | 60 | - | |
| | 6 | DENSITY | kg/m3 | - | 8.62 | - | |
| | 7 | VISCOSITY | CP | - | 0.02 | - | |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 33.94 | - | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 40 | CORROSION ALLOWANCE(mm) 1 |
| | | | OUT | 2" | 40 | |
| | 11 | LINE NO. | NIT-112-0006A-AN01-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2124A , ESOV-2124A | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2124A / XZSO-2124A | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 29 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2124B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (2/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | Gas | **PHASE:** | Nitrogen | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 25 | - | |
| | 2 | INLET PRESSURE | bar(g) | - | 7.5 | - | |
| | 3 | OUTLET PRESSURE | bar(g) | - | 7.5 | - | |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 12.5 |
| | 5 | INLET TEMPERATURE | ºC | - | 60 | - | |
| | 6 | DENSITY | kg/m3 | - | 8.62 | - | |
| | 7 | VISCOSITY | CP | - | 0.02 | - | |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 33.94 | - | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 40 | CORROSION ALLOWANCE(mm) | 1 |
| | | | OUT | 2" | 40 | | |
| | 11 | LINE NO. | NIT-112-0006B-AN01-2"-PT | | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | | |
| | 13 | SIZE | 2" | | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | | |
| | | | OUT | 2"/300# | | | |
| | 19 | FLG FACE FINISH | RF | | | | |
| | 20 | END EXT./MATL. | N/A | | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | | |
| | 22 | TYPE OF BONNET | Standard | | | | |
| | 23 | LUBE & ISO VALVE | No | | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA | |
| | 29 | CHARACTERISTICS | On/Off | | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA | VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2124B , ESOV-2124B | | | | |
| | 39 | TYPE | 3 Way | | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | | |
| | 43 | Power Supply | 24 VDC | | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | | |
| | 46 | BLOCK RELAY | No | | | | |
| | 47 | QUICK EXHUST | Yes | | | | |
| | 49 | FILTER REGULATOR | Yes | | | | |
| | 50 | VOLUME TANK | Yes | | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2124B / XZSO-2124B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 30 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2124C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0006-D09 (3/3) | **SERVICE:** | 1st Stage Gas Compression Suction Drums |
| **FLUID STATE:** | Gas | **PHASE:** | Nitrogen | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 25 | - | |
| | 2 | INLET PRESSURE | bar(g) | - | 7.5 | - | |
| | 3 | OUTLET PRESSURE | bar(g) | - | 7.5 | - | |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 12.5 |
| | 5 | INLET TEMPERATURE | ºC | - | 60 | - | |
| | 6 | DENSITY | kg/m3 | - | 8.62 | - | |
| | 7 | VISCOSITY | CP | - | 0.02 | - | |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 33.94 | - | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" 40 / OUT 2" 40 | CORROSION ALLOWANCE(mm) | 1 | |
| | 11 | LINE NO. | NIT-112-0006C-AN01-2"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN: 2"/300# / OUT: 2"/300# | | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE: PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL: VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL: VTA | VTA | | |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL: VTA | XT: VTA | VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL: Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL: Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2124C , ESOV-2124C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP.: AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION: EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Close | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 5 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2124C / XZSO-2124C | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | | |
| | 93 | API 6FA REQUIREMENTS | Yes | | |
| | 94 | SIL 3 REQUIREMENTS | Yes | | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 31 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2131A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0009-D08 (1 of 3) | **SERVICE:** | 2nd Stage Gas Compression Suction Drums |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 10000 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 18.1 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 18.1 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 30.3 |
| | 5 | INLET TEMPERATURE | ºC | - | 59.88 | - | - |
| | 6 | DENSITY | kg/m3 | - | 981.1 | - | - |
| | 7 | VISCOSITY | CP | - | 0.496 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | 3.23 | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.5 | 221.5 | 221.5 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 10S | CORROSION ALLOWANCE(mm) 0 |
| | | | OUT | 2" | 10S | |
| | 11 | LINE NO. | CDH-111-0023A-CS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2131A , ESOV-2131A | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2131A / XZSO-2131A | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 32 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2131B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0009-D08 (2 of 3) | **SERVICE:** | 2nd Stage Gas Compression Suction Drums |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 10000 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 18.1 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 18.1 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 30.3 |
| | 5 | INLET TEMPERATURE | ºC | - | 59.88 | - | - |
| | 6 | DENSITY | kg/m3 | - | 981.1 | - | - |
| | 7 | VISCOSITY | CP | - | 0.496 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | 3.23 | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.5 | 221.5 | 221.5 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 10S | CORROSION ALLOWANCE(mm) 0 |
| | | | OUT | 2" | 10S | |
| | 11 | LINE NO. | CDH-111-0023B-CS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2131B, ESOV-2131B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2131B / XZSO-2131B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 | شماره صفحه: 33 از 44 |

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2131C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0009-D08 (3 of 3) | **SERVICE:** | 2nd Stage Gas Compression Suction Drums |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 10000 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 18.1 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 18.1 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 30.3 |
| | 5 | INLET TEMPERATURE | ºC | - | 59.88 | - | - |
| | 6 | DENSITY | kg/m3 | - | 981.1 | - | - |
| | 7 | VISCOSITY | CP | - | 0.496 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | 3.23 | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.5 | 221.5 | 221.5 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 10S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 2" | 10S | |
| | 11 | LINE NO. | CDH-111-0023C-CS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2"/300# | | |
| | | | OUT | 2"/300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2131C, ESOV-2131C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2131C / XZSO-2131C | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 34 از 44 |

D02

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2133A** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (1 of 3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 54.1 | 54.1 | 54.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 54.1 | 54.1 | 54.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | °C | - | 60 | - | - |
| | 6 | DENSITY | kg/m3 | 49.41 ~ 59.63 | 49.41 ~ 59.63 | 49.41 ~ 59.63 | - |
| | 7 | VISCOSITY | CP | 0.014 | 0.014 | 0.014 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.66 | 94.66 | 94.66 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 6" | 40S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 6" | 40S | |
| | 11 | LINE NO. | GAS-111-0055A-FS00-6"-IS | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 6" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 6"/600# | | |
| | | | OUT | 6"/600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2133A, ESOV-2133A | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Close | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 7 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2133A / XZSO-2133A | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | | |
| | 93 | API 6FA REQUIREMENTS | Yes | | |
| | 94 | SIL 3 REQUIREMENTS | Yes | | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 | شماره صفحه: 35 از 44 |

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2133B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (2 of 3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 54.1 | 54.1 | 54.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 54.1 | 54.1 | 54.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | °C | - | 60 | - | - |
| | 6 | DENSITY | kg/m3 | 49.41 ~ 59.63 | 49.41 ~ 59.63 | 49.41 ~ 59.63 | - |
| | 7 | VISCOSITY | CP | 0.014 | 0.014 | 0.014 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.66 | 94.66 | 94.66 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 6" | 40S | CORROSION ALLOWANCE(mm) 0 |
| | | | OUT | 6" | 40S | |
| | 11 | LINE NO. | GAS-111-0055B-FS00-6"-IS | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 6" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 6"/600# | | |
| | | | OUT | 6"/600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2133B, ESOV-2133B | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 7 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2133B / XZSO-2133B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |



## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2133C** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (3 of 3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 9530.4 | 8664 | 3032.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 54.1 | 54.1 | 54.1 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 54.1 | 54.1 | 54.1 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | °C | - | 60 | - | - |
| | 6 | DENSITY | kg/m3 | 49.41 ~ 59.63 | 49.41 ~ 59.63 | 49.41 ~ 59.63 | - |
| | 7 | VISCOSITY | CP | 0.014 | 0.014 | 0.014 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 94.66 | 94.66 | 94.66 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 6" | 40S | CORROSION ALLOWANCE(mm): 0 |
| | | | OUT | 6" | 40S | |
| | 11 | LINE NO. | GAS-111-0055C-FS00-6"-IS | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 6" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 6"/600# | | |
| | | | OUT | 6"/600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2133C, ESOV-2133C | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | | |
| | 54 | SIZE | VTA | | |
| | 55 | SPRING FAIL ACTION | Fail to Close | | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | | |
| | 57 | MIN REQUIRES PRESSURE | VTA | | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | | |
| | 59 | BENCH RANGE | VTA | | |
| | 60 | TRAVELING TIME | 7 S | | |
| | 61 | FUNCTION | On/Off | | |
| | 62 | LOCAL POSITION INDICATOR | Required | | |
| | 63 | ACT. ORIENTATION | VTA | | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | | |
| | 66 | INPUT SIGNAL | 24VDC | | |
| | 67 | MFR. & MODEL | Will be finalized later | | |
| POSITIONER | 68 | TYPE | N/A | | |
| | 69 | MFR. & MODEL | Will be finalized later | | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | | |
| | 71 | GAUGES | N/A | | |
| | 72 | CAM CHARACTERISTIC | N/A | | |
| | 73 | AIR CONNECTION | N/A | | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2133C / XZSO-2133C | | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | | |
| | 77 | ACTUATION POINT | Fully Open/Close | | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | | |
| | 79 | WEATHER PROTECTION | IP-65 | | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | | |
| AIR SET | 82 | SET PRESSURE | Yes | | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | Will be finalized later | | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | | |
| | 87 | HYDRO PRESSURE | Required | | |
| | 88 | FUNCTIONAL TEST | Required | | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | | |
| | 93 | API 6FA REQUIREMENTS | Yes | | |
| | 94 | SIL 3 REQUIREMENTS | Yes | | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 37 از 44

## On-Off Valve

| | | | |
|---|---|---|---|
| **TAG NO:** XV-2134A | **P&ID NO :** BK-GCS-PEDCO-120-PR-PI-0011-D09 (1/3) | | **SERVICE:** 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** Purge Gas | **PHASE:** Gas | | **AREA CLASSIFICATION:** Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 25 | - | |
| | 2 | INLET PRESSURE | bar(g) | - | 54.1 | - | |
| | 3 | OUTLET PRESSURE | bar(g) | - | 54.1 | - | |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62 |
| | 5 | INLET TEMPERATURE | ºC | - | 60 | - | |
| | 6 | DENSITY | kg/m3 | - | 8.62 | - | |
| | 7 | VISCOSITY | CP | - | 0.02 | - | |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | | - | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" 40S / OUT 2" 40S | CORROSION ALLOWANCE(mm) | 0 | |
| | 11 | LINE NO. | GAS-111-0030A-FS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | | Full Bore Ball Valve/Trunnion Mounted | | |
| | 13 | SIZE | | 2" | | |
| | 14 | MAX PRESS./TEMP. | | As per PMS | | |
| | 15 | MFR. & MODEL | | Will be finalized later | | |
| | 16 | BODY / BONNET MATL | | ASTM A351 GR.CF3M | | |
| | 17 | LINER MATERIAL / ID | | VTA | | |
| | 18 | END CONNECTION | IN | 2"/600# | | |
| | | | OUT | 2"/600# | | |
| | 19 | FLG FACE FINISH | | RF | | |
| | 20 | END EXT./MATL. | | N/A | | |
| | 21 | FLOW DIRECTION | | (Note 18 in Page 4) | | |
| | 22 | TYPE OF BONNET | | Standard | | |
| | 23 | LUBE & ISO VALVE | | No | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | | Top Entry | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | No | | |
| TRIM | 27 | TRIM | TYPE / MATERIAL | VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL | VTA | VTA | |
| | 29 | CHARACTERISTICS | | On/Off | | |
| | 30 | BALANCED / UNBALANCED | | BALANCED | | |
| | 31 | RATED Cv | FL / XT | VTA | VTA / VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | | 316 SS | | |
| | 33 | SEAT | TYPE / MATERIAL | Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | | VTA | | |
| | 35 | STEM | TYPE / MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | | ANSI Class VI | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | YES | | |
| SOLENOID VALVE | 38 | TAG NO | | PSOV-2134A , ESOV-2134A | | |
| | 39 | TYPE | | 3 Way | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | | Yes | | |
| | 43 | Power Supply | | 24 VDC | | |
| | 44 | Pnu. Connection | | 1/4" NPT | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | No | | |
| | 46 | BLOCK RELAY | | No | | |
| | 47 | QUICK EXHUST | | Yes | | |
| | 49 | FILTER REGULATOR | | Yes | | |
| | 50 | VOLUME TANK | | Yes | | |
| | 51 | MECHANICAL POSITION INDICATOR | | Required | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | | Yes | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2134A / XZSO-2134A | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 38 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2134B** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0011-D09 (2/3) | **SERVICE:** | 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** | Purge Gas | **PHASE:** | Gas | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 25 | - | |
| | 2 | INLET PRESSURE | bar(g) | - | 54.1 | - | |
| | 3 | OUTLET PRESSURE | bar(g) | - | 54.1 | - | |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62 |
| | 5 | INLET TEMPERATURE | ºC | - | 60 | - | |
| | 6 | DENSITY | kg/m3 | - | 8.62 | - | |
| | 7 | VISCOSITY | CP | - | 0.02 | - | |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | | - | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" 40S / OUT 2" 40S | CORROSION ALLOWANCE(mm) | 0 | |
| | 11 | LINE NO. | GAS-111-0030B-FS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | | Full Bore Ball Valve/Trunnion Mounted | | |
| | 13 | SIZE | | 2" | | |
| | 14 | MAX PRESS./TEMP. | | As per PMS | | |
| | 15 | MFR. & MODEL | | Will be finalized later | | |
| | 16 | BODY / BONNET MATL | | ASTM A351 GR.CF3M | | |
| | 17 | LINER MATERIAL / ID | | VTA | | |
| | 18 | END CONNECTION | IN | 2"/600# | | |
| | | | OUT | 2"/600# | | |
| | 19 | FLG FACE FINISH | | RF | | |
| | 20 | END EXT./MATL. | | N/A | | |
| | 21 | FLOW DIRECTION | | (Note 18 in Page 4) | | |
| | 22 | TYPE OF BONNET | | Standard | | |
| | 23 | LUBE & ISO VALVE | | No | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | | Top Entry | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | No | | |
| TRIM | 27 | TRIM | TYPE / MATERIAL | VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL | VTA | VTA | |
| | 29 | CHARACTERISTICS | | On/Off | | |
| | 30 | BALANCED / UNBALANCED | | BALANCED | | |
| | 31 | RATED Cv | FL / XT | VTA | VTA / VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | | 316 SS | | |
| | 33 | SEAT | TYPE / MATERIAL | Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | | VTA | | |
| | 35 | STEM | TYPE / MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | | ANSI Class VI | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | YES | | |
| SOLENOID VALVE | 38 | TAG NO | | PSOV-2134B , ESOV-2134B | | |
| | 39 | TYPE | | 3 Way | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | | Yes | | |
| | 43 | Power Supply | | 24 VDC | | |
| | 44 | Pnu. Connection | | 1/4" NPT | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | No | | |
| | 46 | BLOCK RELAY | | No | | |
| | 47 | QUICK EXHUST | | Yes | | |
| | 49 | FILTER REGULATOR | | Yes | | |
| | 50 | VOLUME TANK | | Yes | | |
| | 51 | MECHANICAL POSITION INDICATOR | | Required | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | | Yes | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2134B / XZSO-2134B | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح‌الارض<br><br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br><br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 39 از 44

## On-Off Valve

| | | | |
|---|---|---|---|
| **TAG NO:** XV-2134C | **P&ID NO :** BK-GCS-PEDCO-120-PR-PI-0011-D09 (3/3) | | **SERVICE:** 2nd Stage Gas Compression Air Coolers |
| **FLUID STATE:** Purge Gas | **PHASE:** Gas | | **AREA CLASSIFICATION:** Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 25 | - | |
| | 2 | INLET PRESSURE | bar(g) | - | 54.1 | - | |
| | 3 | OUTLET PRESSURE | bar(g) | - | 54.1 | - | |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62 |
| | 5 | INLET TEMPERATURE | ºC | - | 60 | - | |
| | 6 | DENSITY | kg/m3 | - | 8.62 | - | |
| | 7 | VISCOSITY | CP | - | 0.02 | - | |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | | - | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 2" 40S / OUT 2" 40S | CORROSION ALLOWANCE(mm) | 0 | |
| | 11 | LINE NO. | GAS-111-0030C-FS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | | Full Bore Ball Valve/Trunnion Mounted | | |
| | 13 | SIZE | | 2" | | |
| | 14 | MAX PRESS./TEMP. | | As per PMS | | |
| | 15 | MFR. & MODEL | | Will be finalized later | | |
| | 16 | BODY / BONNET MATL | | ASTM A351 GR.CF3M | | |
| | 17 | LINER MATERIAL / ID | | VTA | | |
| | 18 | END CONNECTION | IN | 2"/600# | | |
| | | | OUT | 2"/600# | | |
| | 19 | FLG FACE FINISH | | RF | | |
| | 20 | END EXT./MATL. | | N/A | | |
| | 21 | FLOW DIRECTION | | (Note 18 in Page 4) | | |
| | 22 | TYPE OF BONNET | | Standard | | |
| | 23 | LUBE & ISO VALVE | | No | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | | Top Entry | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | No | | |
| TRIM | 27 | TRIM | TYPE / MATERIAL | VTA | 316 SS+PTFE | |
| | 28 | SIZE | RATED TRAVEL | VTA | VTA | |
| | 29 | CHARACTERISTICS | | On/Off | | |
| | 30 | BALANCED / UNBALANCED | | BALANCED | | |
| | 31 | RATED Cv | FL / XT | VTA | VTA / VTA | |
| | 32 | PLUG / BALL / DISK MATERIAL | | 316 SS | | |
| | 33 | SEAT | TYPE / MATERIAL | Soft Seat | PTFE | |
| | 34 | CAGE / GUIDE MATERIAL | | VTA | | |
| | 35 | STEM | TYPE / MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | | ANSI Class VI | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | YES | | |
| SOLENOID VALVE | 38 | TAG NO | | PSOV-2134C , ESOV-2134C | | |
| | 39 | TYPE | | 3 Way | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | | Yes | | |
| | 43 | Power Supply | | 24 VDC | | |
| | 44 | Pnu. Connection | | 1/4" NPT | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | No | | |
| | 46 | BLOCK RELAY | | No | | |
| | 47 | QUICK EXHUST | | Yes | | |
| | 49 | FILTER REGULATOR | | Yes | | |
| | 50 | VOLUME TANK | | Yes | | |
| | 51 | MECHANICAL POSITION INDICATOR | | Required | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | | Yes | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2134C / XZSO-2134C | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 40 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2142** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0012-D08 | **SERVICE:** | 2nd Stage Gas Compression Discharge Drum |
| **FLUID STATE:** | PROCESS GAS | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | 18977.7 | 17252.5 | 6038.4 | - |
| | 2 | INLET PRESSURE | bar(g) | 53.9 | 53.9 | 53.9 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 53.9 | 53.9 | 53.9 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 90 |
| | 5 | INLET TEMPERATURE | °C | 59.89 | 59.89 | 59.89 | - |
| | 6 | DENSITY | kg/m3 | 49.41~ 59.17 | 49.41~ 59.17 | 49.41~ 59.17 | - |
| | 7 | VISCOSITY | CP | 0.014 | 0.014 | 0.014 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 3.23 | 3.23 | 3.23 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 106 | 106 | 106 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 6" | 80 | CORROSION ALLOWANCE(mm) 3 |
| | | | OUT | 6" | 80 | |
| | 11 | LINE NO. | GAS-111-0067-FN05-6"-IS | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 6" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 6" /600# | | |
| | | | OUT | 6" /600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2142, ESOV-2142 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 7 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2142 / XZSO-2142 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 41 از 44 |

D02

## On-Off Valve

| TAG NO: | XV-2143 | P&ID NO : | BK-GCS-PEDCO-120-PR-PI-0012-D08 | SERVICE: | 2nd Stage Gas Compression Discharge Drum |
|---|---|---|---|---|---|
| FLUID STATE: | PROCESS GAS | PHASE: | GAS | AREA CLASSIFICATION: | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 1500.0 | - | - |
| | 2 | INLET PRESSURE | bar(g) | 53.9 | 53.9 | 53.9 | - |
| | 3 | OUTLET PRESSURE | bar(g) | 53.9 | 53.9 | 53.9 | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 90 |
| | 5 | INLET TEMPERATURE | °C | 59.89 | 59.89 | 59.89 | - |
| | 6 | DENSITY | kg/m3 | 49.23~ 59.17 | 49.23~ 59.17 | 49.23~ 59.17 | - |
| | 7 | VISCOSITY | CP | 0.014 | 0.014 | 0.014 | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 106 | 106 | 106 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 80 | CORROSION ALLOWANCE(mm) | 3 |
| | | | OUT | 2" | 80 | | |
| | 11 | LINE NO. | GAS-111-0061-FN05-2"-IS | | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | | |
| | 13 | SIZE | 2" | | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | | |
| | 18 | END CONNECTION | IN | 2" /600# | | | |
| | | | OUT | 2" /600# | | | |
| | 19 | FLG FACE FINISH | RF | | | | |
| | 20 | END EXT./MATL. | N/A | | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | | |
| | 22 | TYPE OF BONNET | Standard | | | | |
| | 23 | LUBE & ISO VALVE | No | | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | | |
| | 25 | ENTRY DESIGN | Top Entry | | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | YES | | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE | |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA | |
| | 29 | CHARACTERISTICS | On/Off | | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA | VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE | |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS | |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | | |
| SOLENOID VALVE | 38 | TAG NO | ESOV-2143, PSOV-2143 | | | | |
| | 39 | TYPE | 3 Way | | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | | |
| | 42 | MANUAL RESET | Yes | | | | |
| | 43 | Power Supply | 24 VDC | | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | | |
| | 46 | BLOCK RELAY | No | | | | |
| | 47 | QUICK EXHUST | Yes | | | | |
| | 49 | FILTER REGULATOR | Yes | | | | |
| | 50 | VOLUME TANK | No | | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | | |
| | 52 | MANUAL PNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 7 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2143 / XZSO-2143 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | No | |
| | 93 | API 6FA REQUIREMENTS | | Yes | |
| | 94 | SIL 3 REQUIREMENTS | | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | | Yes | |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 — شماره صفحه: 42 از 44 |

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2144** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0012-D08 | **SERVICE:** | 2nd Stage Gas Compression Discharge Drum |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 11500 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 53.9 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 53.9 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 62.4 |
| | 5 | INLET TEMPERATURE | °C | - | 59.9 | - | - |
| | 6 | DENSITY | kg/m3 | - | 830~ 982 | - | - |
| | 7 | VISCOSITY | CP | - | 0.442~ 0.495 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | 4.43 | 4.43 | 4.43 | - |
| | 9 | CRITICAL PRESSURE | bar(a) | 221.9 | 221.9 | 221.9 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 40S | CORROSION ALLOWANCE(mm) 0 |
| | | | OUT | 2" | 40S | |
| | 11 | LINE NO. | CDH-112-0025-FS00-2"-NP | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 2" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A351 GR.CF3M | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN | 2" /600# | | |
| | | | OUT | 2" /600# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+RPTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | RPTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2144, ESOV-2144 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | Required | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | Yes | | | |

| | | | | |
|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | Single Acting, Spring Return | |
| | 54 | SIZE | VTA | |
| | 55 | SPRING FAIL ACTION | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | VTA | |
| | 57 | MIN REQUIRES PRESSURE | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | VTA | |
| | 60 | TRAVELING TIME | 5 S | |
| | 61 | FUNCTION | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | Required | |
| | 63 | ACT. ORIENTATION | VTA | |
| | 64 | HAND WHEEL TYPE | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | Yes | |
| | 66 | INPUT SIGNAL | 24VDC | |
| | 67 | MFR. & MODEL | Will be finalized later | |
| POSITIONER | 68 | TYPE | N/A | |
| | 69 | MFR. & MODEL | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | N/A | |
| | 71 | GAUGES | N/A | |
| | 72 | CAM CHARACTERISTIC | N/A | |
| | 73 | AIR CONNECTION | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | XZSC-2144 / XZSO-2144 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | 110V DC , 10A | |
| | 77 | ACTUATION POINT | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | Yes | |
| | 83 | PNEUMATIC CONNECTION | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required / Required |
| | 85 | MFR. & MODEL | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | Required | |
| | 87 | HYDRO PRESSURE | Required | |
| | 88 | FUNCTIONAL TEST | Required | |
| | 89 | | | |
| | 90 | | | |
| | 91 | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | No | |
| | 93 | API 6FA REQUIREMENTS | Yes | |
| | 94 | SIL 3 REQUIREMENTS | Yes | |
| | 95 | PARTIAL STROKING VALVE TEST | Yes | |
| | 96 | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | HIRGAN ENERGY |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | D02 |

شماره صفحه: 43 از 44

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2271** | **P&ID NO :** | BK-GCS-PEDCO-120-PR-PI-0022-D08 | **SERVICE:** | Fuel Gas System |
| **FLUID STATE:** | CLOSED DRAIN | **PHASE:** | LIQUID | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 603.15 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 4.9 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | - | - | 18.2 |
| | 5 | INLET TEMPERATURE | °C | - | 18.88~ 36.7 | - | - |
| | 6 | DENSITY | kg/m3 | - | 842~ 852 | - | - |
| | 7 | VISCOSITY | CP | - | 0.6934 ~ 1.03 | - | - |
| | 8 | VAPOR PRESSURE Pv | bar(a) | - | 0.448 | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | 221.3 | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN | 2" | 160 | CORROSION ALLOWANCE(mm) | 6 |
| | | | OUT | 2" | 160 | | |
| | 11 | LINE NO. | CDH-112-0004-AN07-2"-PT | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| VALVE BODY & BONNET | 12 | TYPE | | | Full Bore Ball Valve/Trunnion Mounted | |
| | 13 | SIZE | | | 2" | |
| | 14 | MAX PRESS./TEMP. | | | As per PMS | |
| | 15 | MFR. & MODEL | | | Will be finalized later | |
| | 16 | BODY / BONNET MATL | | | ASTM A216 Gr. WCB | |
| | 17 | LINER MATERIAL / ID | | | VTA | |
| | 18 | END CONNECTION | IN | | 2" /300# | |
| | | | OUT | | 2" /300# | |
| | 19 | FLG FACE FINISH | | | RF | |
| | 20 | END EXT./MATL. | | | N/A | |
| | 21 | FLOW DIRECTION | | | (Note 18 in Page 4) | |
| | 22 | TYPE OF BONNET | | | Standard | |
| | 23 | LUBE & ISO VALVE | | | No | |
| | 24 | PACKING MATERIAL | PACKING TYPE | | PTFE | Standard |
| | 25 | ENTRY DESIGN | | | Top Entry | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | | | No | |

| | | | | | | |
|---|---|---|---|---|---|---|
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | | VTA | VTA |
| | 29 | CHARACTERISTICS | | | On/Off | |
| | 30 | BALANCED / UNBALANCED | | | BALANCED | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | | | 316 SS | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | | | VTA | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | | | ANSI Class VI | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | | | YES | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SOLENOID VALVE | 38 | TAG NO | | | PSOV-2271, ESOV-2271 | |
| | 39 | TYPE | | | 3 Way | |
| | 40 | BODY MATERIAL | | WEATHER IP. | AISI 316 S.S | IP-65 |
| | 41 | ELE. CERTIFICATE | | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 |
| | 42 | MANUAL RESET | | | Yes | |
| | 43 | Power Supply | | | 24 VDC | |
| | 44 | Pnu. Connection | | | 1/4" NPT | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | | | No | |
| | 46 | BLOCK RELAY | | | No | |
| | 47 | QUICK EXHUST | | | Yes | |
| | 49 | FILTER REGULATOR | | | Yes | |
| | 50 | VOLUME TANK | | | Yes | |
| | 51 | MECHANICAL POSITION INDICATOR | | | Required | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | | | Yes | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | | Single Acting, Spring Return |
| | 54 | SIZE | | | VTA |
| | 55 | SPRING FAIL ACTION | | | Fail to Close |
| | 56 | MAX ALLOWABLE PRESSURE | | | VTA |
| | 57 | MIN REQUIRES PRESSURE | | | VTA |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | | MAX/NOR/MIN: 10/7/3 bar-g |
| | 59 | BENCH RANGE | | | VTA |
| | 60 | TRAVELING TIME | | | 5 S |
| | 61 | FUNCTION | | | On/Off |
| | 62 | LOCAL POSITION INDICATOR | | | Required |
| | 63 | ACT. ORIENTATION | | | VTA |
| | 64 | HAND WHEEL TYPE | | | Clutchable side mounted |
| | 65 | ADJUSTABLE LIMIT STOP | | | Yes |
| | 66 | INPUT SIGNAL | | | 24VDC |
| | 67 | MFR. & MODEL | | | Will be finalized later |
| POSITIONER | 68 | TYPE | | | N/A |
| | 69 | MFR. & MODEL | | | Will be finalized later |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | | N/A |
| | 71 | GAUGES | | | N/A |
| | 72 | CAM CHARACTERISTIC | | | N/A |
| | 73 | AIR CONNECTION | | | N/A |
| LIMIT SWITCHES | 74 | TAG NO. : | | | XZSC-2271 / XZSO-2271 |
| | 75 | TYPE | QUANTITY | | Magnetically operated 'REED' contacts / 2 |
| | 76 | CONTACTS / RATING | | | 110V DC , 10A |
| | 77 | ACTUATION POINT | | | Fully Open/Close |
| | 78 | ENCLOSURE MATERIAL | | | Die Cast Aluminum |
| | 79 | WEATHER PROTECTION | | | IP-65 |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | | EEx "d" ,IIB T4 / ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | | Will be finalized later |
| AIR SET | 82 | SET PRESSURE | | | Yes |
| | 83 | PNEUMATIC CONNECTION | | | 1/4" NPT |
| | 84 | GAUGES | FILTER | | Required / Required |
| | 85 | MFR. & MODEL | | | Will be finalized later |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | | Required |
| | 87 | HYDRO PRESSURE | | | Required |
| | 88 | FUNCTIONAL TEST | | | Required |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |
| FIRE PROOF DESIGN | 92 | PASSIVE FIRE PROTECTION | | | No |
| | 93 | API 6FA REQUIREMENTS | | | Yes |
| | 94 | SIL 3 REQUIREMENTS | | | Yes |
| | 95 | PARTIAL STROKING VALVE TEST | | | Yes |
| | 96 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.

| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>سطح الارض<br>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک<br>Data Sheets For ON/OFF & Shutdown Valves | |
|---|---|---|

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | |
|---|---|---|---|---|---|---|---|---|---|
| 053 - 073 – 9038 | BK | GCS | PEDCO | 120 | IN | DT | 0010 | D02 | شماره صفحه: 44 از 44 |

D02

## On-Off Valve

| | | | | | |
|---|---|---|---|---|---|
| **TAG NO:** | **XV-2301** | **P&ID NO :** | BK-GCS-PEDCO-120-SA-PI-0001-D05 (1/8) | **SERVICE:** | Fire Water System |
| **FLUID STATE:** | FIRE WATER | **PHASE:** | GAS | **AREA CLASSIFICATION:** | Zone2, IIB, T4 |

| | | ITEM | UNITS | Max Flow | Norm. Flow | Min. Flow | Shut-Off |
|---|---|---|---|---|---|---|---|
| SERVICE CONDITION | 1 | FLOW RATE | kg/h | - | 29910 | - | - |
| | 2 | INLET PRESSURE | bar(g) | - | 1 | - | - |
| | 3 | OUTLET PRESSURE | bar(g) | - | 0.95 | - | - |
| | 4 | DIFFERENTIAL PRESSURE | bar(g) | - | 0.05 | - | - |
| | 5 | INLET TEMPERATURE | °C | 55 | AMB | 5 | - |
| | 6 | DENSITY | kg/m3 | - | 997 | - | - |
| | 7 | VISCOSITY | CP | - | 0.81 | - | - |
| | 8 | VAPOR PRESSURE Pv | | - | - | - | - |
| | 9 | CRITICAL PRESSURE | bar(a) | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| LINE | 10 | PIPE LINE SIZE & SCHEDULE | IN 3" 40 / OUT 3" 40 | CORROSION ALLOWANCE(mm) | 3 | |
| | 11 | LINE NO. | FWA-112-0007-AN04-3"-PT | | | |
| VALVE BODY & BONNET | 12 | TYPE | Full Bore Ball Valve/Trunnion Mounted | | | |
| | 13 | SIZE | 3" | | | |
| | 14 | MAX PRESS./TEMP. | As per PMS | | | |
| | 15 | MFR. & MODEL | Will be finalized later | | | |
| | 16 | BODY / BONNET MATL | ASTM A216 Gr. WCB | | | |
| | 17 | LINER MATERIAL / ID | VTA | | | |
| | 18 | END CONNECTION | IN: 3" /300# | OUT: 3" /300# | | |
| | 19 | FLG FACE FINISH | RF | | | |
| | 20 | END EXT./MATL. | N/A | | | |
| | 21 | FLOW DIRECTION | (Note 18 in Page 4) | | | |
| | 22 | TYPE OF BONNET | Standard | | | |
| | 23 | LUBE & ISO VALVE | No | | | |
| | 24 | PACKING MATERIAL | PACKING TYPE | PTFE | Standard | |
| | 25 | ENTRY DESIGN | Top Entry | | | |
| | 26 | NACE REQUIREMENTNACE (MR-0175/ISO 15156) | No | | | |
| TRIM | 27 | TRIM | TYPE | MATERIAL | VTA | 316 SS+PTFE |
| | 28 | SIZE | RATED TRAVEL | VTA | VTA | |
| | 29 | CHARACTERISTICS | On/Off | | | |
| | 30 | BALANCED / UNBALANCED | BALANCED | | | |
| | 31 | RATED Cv | FL | XT | VTA | VTA / VTA |
| | 32 | PLUG / BALL / DISK MATERIAL | 316 SS | | | |
| | 33 | SEAT | TYPE | MATERIAL | Soft Seat | PTFE |
| | 34 | CAGE / GUIDE MATERIAL | VTA | | | |
| | 35 | STEM | TYPE | MATERIAL | Anti-Blow Out | 316 SS |
| | 36 | LEAKAGE CLASS | ANSI Class VI | | | |
| | 37 | VALVE STEM EXTENSION REQUIREMENT | YES | | | |
| SOLENOID VALVE | 38 | TAG NO | PSOV-2301 | | | |
| | 39 | TYPE | 3 Way | | | |
| | 40 | BODY MATERIAL | WEATHER IP. | AISI 316 S.S | IP-65 | |
| | 41 | ELE. CERTIFICATE | ELE. CONNECTION | EEx "d" ,IIB T4 | ISO M20 x 1.5 | |
| | 42 | MANUAL RESET | Yes | | | |
| | 43 | Power Supply | 24 VDC | | | |
| | 44 | Pnu. Connection | 1/4" NPT | | | |
| SPECIAL / ACCESS. | 45 | FUSIBLE LEAKAGE | No | | | |
| | 46 | BLOCK RELAY | No | | | |
| | 47 | QUICK EXHUST | Yes | | | |
| | 49 | FILTER REGULATOR | Yes | | | |
| | 50 | VOLUME TANK | Yes | | | |
| | 51 | MECHANICAL POSITION INDICATOR | No | | | |
| | 52 | MANUALPNEUMATIC BYPASS VALVE FOR SOLENOID VALVE | No | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACTUATOR | 53 | TYPE | | Single Acting, Spring Return | |
| | 54 | SIZE | | VTA | |
| | 55 | SPRING FAIL ACTION | | Fail to Close | |
| | 56 | MAX ALLOWABLE PRESSURE | | VTA | |
| | 57 | MIN REQUIRES PRESSURE | | VTA | |
| | 58 | AVAILABLE AIR SUPPLY PRESSURE | | MAX/NOR/MIN: 10/7/3 bar-g | |
| | 59 | BENCH RANGE | | VTA | |
| | 60 | TRAVELING TIME | | 5 S | |
| | 61 | FUNCTION | | On/Off | |
| | 62 | LOCAL POSITION INDICATOR | | Required | |
| | 63 | ACT. ORIENTATION | | VTA | |
| | 64 | HAND WHEEL TYPE | | Clutchable side mounted | |
| | 65 | ADJUSTABLE LIMIT STOP | | Yes | |
| | 66 | INPUT SIGNAL | | 24VDC | |
| | 67 | MFR. & MODEL | | Will be finalized later | |
| POSITIONER | 68 | TYPE | | N/A | |
| | 69 | MFR. & MODEL | | Will be finalized later | |
| | 70 | ON INCR SIGNAL OUTPUT INCR / DECR | | N/A | |
| | 71 | GAUGES | | N/A | |
| | 72 | CAM CHARACTERISTIC | | N/A | |
| | 73 | AIR CONNECTION | | N/A | |
| LIMIT SWITCHES | 74 | TAG NO. : | | XZSC-2301 / XZSO-2301 | |
| | 75 | TYPE | QUANTITY | Magnetically operated 'REED' contacts | 2 |
| | 76 | CONTACTS / RATING | | 110V DC , 10A | |
| | 77 | ACTUATION POINT | | Fully Open/Close | |
| | 78 | ENCLOSURE MATERIAL | | Die Cast Aluminum | |
| | 79 | WEATHER PROTECTION | | IP-65 | |
| | 80 | ELEC. CERTIFICATE | ELEC. CONNECTION | EEx "d" ,IIB T4 | ISO M20 × 1.5 |
| | 81 | MFR. & MODEL | | Will be finalized later | |
| AIR SET | 82 | SET PRESSURE | | Yes | |
| | 83 | PNEUMATIC CONNECTION | | 1/4" NPT | |
| | 84 | GAUGES | FILTER | Required | Required |
| | 85 | MFR. & MODEL | | Will be finalized later | |
| TEST | 86 | ANSI/FCI LEAKAGE CLASS | | Required | |
| | 87 | HYDRO PRESSURE | | Required | |
| | 88 | FUNCTIONAL TEST | | Required | |
| | 89 | | | | |
| | 90 | | | | |
| | 91 | | | | |

**NOTE:** VTA : VENDOR TO ADVISE AT BIDDING STAGE VTC: VENDOR TO CONIFRM

(1) PMS: Piping material specification.

(2) All material shall be suitable for minimum design metal temperature.

(3) Shall be stated by vendor at quotation stage.

(4) Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.